

ABSTRACT

A FLEXIBLE DIGITAL SIGNAL PROCESSOR

The invention describes a digital signal processor to execute at
5 least one dedicated operation of a dedicated system such as an digital
front-end of any digital subscriber line system. The digital signal
processor is a flexible digital signal processor and comprises therefor:

- an arithmetic logical unit that comprises a plurality of inputs to
receive input data; and a predefined interconnected plurality of basic
10 operators coupled to the plurality of inputs for execution of a respective
basic operation on the received input data; and a plurality of control
inputs coupled between the predefined plurality of basic operators and
a program controller; and

- the program controller to activate via the plurality of control
15 inputs, for at least one phase of a control program of the program
controller and under control of an actual phase of the at least one
phase, one or more basic operators of the plurality of basic operators
and to enable thereby the one or more basic operators to execute its
respective basic operation and to realize therewith at least part of a
20 dedicated operation of the dedicated system; and

- the arithmetic logical unit further comprises a plurality of
outputs to receive, upon realization of each phase of the at least one
phase of the control program, an output data whereby the output data
represent a result of the execution of the at least one dedicated
25 operation of the dedicated system.

(Figure 1)